

clavate form ; the outer canal undergoes more profound modifications. From its outer border a series of secondary cæca soon arises, and these elongate and become subdivided, until the whole resembles a double, hollow, palmated organ, with its trunks slightly flexuous. The organization of this primitive liver appears to be very simple ; the walls of its numerous tubes are delicate and transparent, and formed of two layers analogous to those of the intestine, which they also resemble in the faculty of contraction and dilatation. The liver of the other Crustacean larvæ, however different in arrangement, has the same origin and organization ; it may be seen alternately extremely dilated and much contracted. The larvæ of *Mysis* and *Porcellana* are particularly remarkable in this respect.

The liver, consequently, is here a diverticulum appended to the intestinal canal ; and at this period the communications between the two organs are so wide, that the nutritive molecules poured by the umbilical vesicle into the cavity of the intestine pass freely from the latter into the future biliary ducts, and *vice versa*, as they are impelled by the contractions of those organs. It is difficult to say whether, at this point of organization, the liver furnishes any products of secretion to the intestine. If such products exist either in the cæca of the gland or in the intestine, they are so scanty and colourless as to be inappreciable.—*Comptes Rendus*, January 9, 1865, p. 74.

*Note on a new Case of Reproduction by Gemmation observed in an Annelide of the Gulf of Suez.* By M. L. VAILLANT.

The animal observed by the author belongs to the group of Syllidians, but is not further determined. It is only a little more than four millimètres in length, and presents eight segments, each having a pair of cirri, furnished with eight or ten smooth setæ upon two-thirds of their length, and bristling with small verticillated spines in their terminal third. In front, upon what was apparently the dorsal side, there was a process in the form of a rounded leaf, beneath which was a bundle of tentacles and the buccal aperture. The little animal was found in a cavity of a Sponge.

The segment which bears the leaf-like process presents the most important modifications. It is much broader than the rest of the body, and forms a sort of cup or funnel, compressed from the ventral to the dorsal surface, so as to represent two thick lips, of which the lower is smooth and simple, whilst the upper one is covered with an immense number of buds, placed very close together, and inserted quincuncially.

These buds have a very remarkable form, resembling that of some low forms of Annelides allied to *Nemertes* or *Planaria*. They have a very contractile body, nearly equal in length to that of the parent animal, flattened and obtuse at the free extremity, where they present two or four small black oculiform points. They present only an annulated integument and a few cell-nuclei in the more advanced individuals. Towards the point of attachment, the body becomes

narrowed into an elongated peduncle ; and if this is broken, the little creature moves freely in the water by movements of its body. No vibratile apparatus could be detected.

The author says that these bodies cannot be parasites, on account of the continuity of their tissues with those of the animal ; and he does not think they can be regarded as oculiferous tentacles, because great mobility of the eyes occurs only where those organs are very few in number.—*Comptes Rendus*, February 27, 1865, p. 441.

*On the Normal Occurrence of only Six Cervical Vertebrae in Cholœpus Hoffmanni, Peters.* By PROFESSOR PETERS.

As a general rule, all the Mammalia have seven cervical vertebrae, the only known exceptions to this rule being found in the genera *Bradypus* and *Trichechus*, Linn. (*Manatus*, Cuv.). The species of the former usually have nine cervical vertebrae, rarely eight\* or ten. In the latter the normal number is six.

In 1858 the author described a new species of two-toed Sloth from Costa Rica, under the name of *Cholœpus Hoffmanni* †; and he has since received perfect and imperfect skeletons of this species which present a second example of the occurrence of six cervical vertebrae among Mammalia, and at the same time furnish an additional character for the distinction of this short-toed species from the long-toed *C. didactylus* from the north of Brazil and Guiana, which has the normal number of seven vertebrae in the neck.

The total number of vertebrae is forty-six in five of the skeletons ; in a sixth, very young specimen, the last caudal vertebrae have been cut away. All of them have only six cervical vertebrae. Of these skeletons, four have all the cervical vertebrae separate ; one has the second and third vertebrae anchylosed together, as observed by A. Wagner ‡ in *C. didactylus* ; and one presents, in addition to this, an anchylosis of the sixth cervical with the first dorsal vertebra. Four skeletons have 23 dorsal vertebrae and pairs of ribs, 3 lumbar and 8 sacral vertebrae ; one has 23 dorsal, 4 lumbar, and 7 sacral vertebrae ; and one exhibits 24 dorsal vertebrae and pairs of ribs, only 2 lumbar vertebrae (the first lumbar being reckoned as dorsal, from its having ribs), and 8 sacral vertebrae. All, with the exception of the damaged young animal, have 6 caudal vertebrae, of which the last two are anchylosed in one specimen.

Throughout the Sloths there appears to be a great tendency to the formation and anchylosis of bones. To the observations already recorded upon this subject the author adds that sometimes in *Bradypus* (*tridactylus*) the hyoid bone and its cornua are amalgamated

\* This number occurs generally in *Bradypus torquatus*, which may be regarded as the type of a distinct genus, on account of differences in the form of the skull, hyoid bone, and humerus : for this, if established, Professor Peters proposes the name of *Scœopus*.

† Monatsber. Berl. Acad. 1858, p. 128.

‡ Schreber's 'Säugethiere,' Supplement iv. p. 155.